

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Vierthaler et al. **GROUP:** 2615
SERIAL NO: 10/030,521 **EXAMINER:** D. Suthers
FILED: May 10, 2002
FOR: APPARATUS AND METHOD FOR PROCESSING AN AUDIO
SIGNAL TO COMPENSATE FOR THE FREQUENCY RESPONSE OF
LOUDSPEAKERS [as amended]

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

This Pre-Appeal Brief Request is in response to the Official Action dated October 2, 2006.

Applicant requests review of the rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reasons set forth hereinbelow.

Claims 13-32 remain for further consideration. No new matter has been added.

The rejections shall be taken up in the order presented in the Official Action.

1-19. Claims 13-21, 24-26 and 29-32 currently stand rejected as allegedly being obvious over the combined subject matter is U.S. Patent 4,182,930 to Blackmer (hereinafter “Blackmer”) and U.S. Patent 4,000,370 to Smith et al. (hereinafter “Smith”).

CLAIM 13

Claim 13 recites a method for processing an audio signal, which includes the steps of:

- “band-limiting the received audio signal to generate a first intermediate signal;
- multiplying the first intermediate signal by a correction factor to generate a second intermediate signal;
- amplifying the second intermediate signal by an amplification factor to generate a third intermediate signal;
- limiting the amplitude of the third intermediate signal to a threshold value to generate a fourth intermediate signal;
- providing the correction factor as a feedback signal that is a function of the third intermediate signal;
- band-limiting the fourth intermediate signal to generate a fifth intermediate signal; and
- adding the fifth intermediate signal to the received audio signal.” (cl. 13).

The Official Action contends that Blackmer discloses all of the features of claim 13 except for the step of limiting the amplitude of the third intermediate signal and the step of providing the correction factor. (Official Action, pg. 3). The Official Action contends that Smith discloses the step of limiting the amplitude of the third intermediate signal and the step of providing the correction factor. (Official Action, pg. 3). The Official Action concludes that “[a]t the time of the invention it would have been obvious to a person of ordinary skill in the art to use the limiter of Smith to limit the amplified signal of Blackmer. The motivation for doing so would have been to avoid distortion due to overloading.” (Official Action, pg. 3).

This rejection of claim 13 in the Official Action dated October 2, 2006 is identical to the rejection of claim 13 in the Official Action, made final, mailed May 17, 2006. An amendment (“hereinafter “Second Amendment”) in response to that Official Action was mailed August 11,

2006. In that Second Amendment, Applicant argued under two lines of reasoning why Blackmer and Smith are not properly combinable to render claim 13 obvious, as referred to hereinafter as follows:

A SKILLED PERSON WOULD NOT COMBINE BLACKMER AND SMITH

In the Second Amendment, Applicant argued in detail why a skilled person would not combine Blackmer and Smith. See the Second Amendment, pgs. 13-14 where Applicant points out that Blackmer and Smith are related to different technical problems and thus have different technical teachings to solve these problems. Specifically, Blackmer relates to adding energy to the bass region of a signal (e.g., 40-100 Hz) to increase the energy associated with the bass frequency components of a signal. In contrast, Smith teaches selectively shunting an input signal in order to limit an amplified output signal value. Therefore, Blackmer is additive (i.e., adds energy to the signal), while Smith is subtractive (i.e., reduces the energy of the signal). As such, Blackmer clearly addresses the problem of there being insufficient energy in the desired frequency range. In contrast, Smith relates to a system that shunts an input signal when the associated output signal becomes too large. As such, Blackmer and Smith are not properly combinable to render claim 13 obvious since Blackmer deals with the issue of not enough signal energy while Smith deals with too much signal energy.

IF MODIFIED AS SUGGESTED, BLACKMER NO LONGER OPERATES FOR ITS INTENDED PURPOSE

In the Second Amendment, Applicant further argued that if Blackmer is modified as suggested in the Official Action based upon the alleged teachings of Smith, then Blackmer will no longer operate for its intended purpose. See the Second Amendment, pgs. 14-18 for the

detailed arguments along this line of reasoning. Specifically, Applicant points out that a stated goal of Blackmer is for improved audio signal reproduction. If Blackmer is modified to include the teachings of Smith, then Blackmer will no longer *feedforward* a gain control signal to the gain control 24 based upon the amount of energy within a specific frequency range of 40 to 100 Hz. See Second Amendment, pgs. 15-17. Applicant also points out that if Blackmer is modified as suggested, then Blackmer no longer has any circuitry for determining the energy within the frequency range of interest, since the feedforward structure of Blackmer has been replaced with the feedback structure of Smith. See Second Amendment, pg. 17. As such, Blackmer, if modified by Smith as suggest in the Official Action, would no longer operate for its intended purpose.

Therefore, in light of the foregoing, it is respectfully submitted that the obviousness rejection of claim 13 should be removed, and that claim 13 is in condition for allowance and should be passed to issuance.

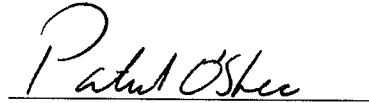
Claims 24, 29 and 32

Since these independent claims currently stand rejected for the same reasons as claim 13, the arguments above with respect to claim 13 apply equally well to claims 24, 29 and 32. Therefore, it is respectfully requested that the obviousness rejection of claims 24, 29 and 32 is now moot, and that claims 24, 29 and 32 are in condition for allowance and should be passed to issuance.

For all the foregoing reasons, reconsideration and allowance of claims 13-32 is respectfully requested.

If a telephone interview could assist in the prosecution of this application, please call the undersigned attorney.

Respectfully submitted,

A handwritten signature in cursive script, reading "Patrick O'Shea", is written over a horizontal line.

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Application Number

10/030,521

Filed

May 10, 2002

First Named Inventor

Matthias Vierthaler

Art Unit

2615

Examiner

Douglas Suthers

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record.
Registration number 35.305

☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

Patrick O'Shea
Signature

Patrick J. O'Shea

Typed or printed name

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Telephone number

January 2, 2007
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

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